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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,554	09/26/2003	Rajdeep S. Kalgutkar	58753US002	8850
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3M INNOVATIVE PROPERTIES COMPANY			MCCLENDON, SANZA L	
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ST. PAUL, MN 55133-3427			1711	

DATE MAILED: 02/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/672,554

Applicant(s)

KALGUTKAR, RAJDEEP S.

Examiner

Sanza L McClendon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2003.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
4a) Of the above claim(s) 29-47 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-19 and 21-28 is/are rejected.
7) ☒ Claim(s) 20 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/04 (2x), 12/04, 3/
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-28, drawn to a composition, classified in class 252, subclass 182.17.
 - II. Claims 29-37, drawn to a method of photopolymerization, classified in class 522, subclass 17
 - III. Claims 38-42, drawn to a method of photopolymerization, classified in class 522, subclass 31
 - IV. Claims 43-47, drawn to a triarylsulfonium arylsulfinate salt, classified in class 568, subclass 32.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product as claimed can be used in a materially different process of using said product, such as thermal polymerization by exposure to heat.

3. Inventions I and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are not disclosed as capable of use together and they different modes different modes of operation, i.e., that is one is composition comprising a mixture of two different salts and the other is a method of photopolymerization using a different ionic salt compound from the one in Invention I.

4. Inventions I and IV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are not disclosed as capable of use together and they different modes different modes of operation, i.e., that is one is composition (mixture of two different salts) and the other is an ionic salt compound.

5. Inventions II and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different

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inventions they are not disclosed as useable together and they have different modes of operation--- one method using two ionic salt photoinitiators and the other uses one ionic salt different from those found in II.

6. Inventions II and IV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions that is one is composition comprising a mixture of two different salts and the other is a method of photopolymerization using a different ionic salt compound from the one in Invention II.

7. Inventions III and IV are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product as claimed can be used in a materially different process of using that product, i.e., such as thermal polymerization by exposure to heat.

8. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

9. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, III, or IV, restriction for examination purposes as indicated is proper.

10. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

11. During a telephone conversation with Jean Lown on February 11, 2005 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-28. Affirmation of this election must be made by applicant in replying to this Office action. Claims 29-47 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Double Patenting

12. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible

harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

13. Claims 1-16, 22-24, 29-32 and 34 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 and 21-24, 26-27, 33-38, and 39 of copending Application No. 10/672,762 in view of Shimda et al^a (JP 2002-341519). The instant claims differs from copending 10/672,762 in that the electron donor compound can be an iodonium salt or peroxide in 10/672,762 and the electron acceptor compound in the instant claimed invention is a triarylsulfonium salt. However JP 2002-341519 shows that it is well known in the art to combine an arylsulfinate anion having ammonium cation with an onium salt initiator, such as an iodonium salt or a sulfonium salt or peroxide—see paragraph [0032] and the incorporated by reference document found in [0032]. Another difference is the sensitizing compound in the polymerization method found in 10/672,762. However, JP 2002-341519 teaches it is known to added colorants, such as dyes to compositions comprising arylsulfinate salts having ammonium cations in combination with other onium salts, such as iodonium and sulfonium salts, wherein said dyes helps to increase (speed) the polymerization activity (time)—see [0058].

Therefore, it would have been obvious for an artisan of ordinary skill in the art to prepare the instantly claimed invention from the combined teachings of application 10/672,762 and JP 2002-341519. The motivation would have been a reasonable expectation of obtained a faster curing, as well as, stable initiator system as taught by JP 2002-341519 for polymerization of ethylenically unsaturated monomers.

This is a provisional obviousness-type double patenting rejection.

^a Document JP 2002-341519 to Shimda et al is taken from a machine translation, wherein only the means section printed out. A copy has been sent for and will be supplied at that time. Meanwhile a copy of the rough translation (Means section only) will be attached to the PTO-892.

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14. Claims 1-6, 22-24, and 29-33 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 6, 8-10, 12-15, 18, and 20-24 of copending Application No. 10/672,714 in view of Shimda et al^a (JP 2002-341519). The instant claims differ from copending 10/672,814 in that there are dental additives in 10/672,814. However, applicant's language in the instantly claimed invention is open language and open to other material components. Therefore it would have been obvious for an artisan of ordinary skill in the art to add additives to the instant compositions to tailor for a specific use. Additionally, 10/672,814 adds a sensitizing compound to the composition. However, it is known from the prior art (see Shimda et al) that the addition of coloring materials, especially dyes, are useful not only as coloring agents but as rate enhancers for the initiator system. The last difference is the addition of an electron acceptor, which can be an iodonium salts or peroxides. Shimda et al teaches it is well known in the art to combine an arylsulfinate anion having ammonium cation with an onium salt initiator or peroxide, such as an iodonium salt or a sulfonium salt—see paragraph [0032] and the incorporated by reference document found in [0032].

Therefore, in the examiner's opinion it would have been obvious for an artisan of ordinary skill in the art to prepare the instantly claimed invention from the combined teachings of application 10/672,814 and JP 2002-341519. The motivation would have been a reasonable expectation of obtained a faster curing, as well as, stable initiator system as taught by JP 2002-341519 for polymerization of ethylenically unsaturated monomers.

This is a provisional obviousness-type double patenting rejection.

Claims 1-16, and 22-23 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19, and 21 of copending Application No. 10/847,523 in view of Shimda et al^a (JP 2002-341519). The instant invention differs from the co-pending application in that the instant claims have a triarylsulfonium salt electron acceptor, which differs from the electron acceptors not present in 10/847,523. In addition, the open language in 10/847,523 claim 1 does not exclude the addition other electron acceptors that differ from those found within the claims of 10/847,523. Other differences include the addition of a sensitizer compound such as a dye. In spite of this, it is known from the prior art (see Shimda et al) that the addition of coloring materials, especially dyes, are useful not only as coloring agents but as rate enhancers for the initiator system. Therefore, in the examiner's opinion it would have been obvious for an artisan of ordinary skill in the art to prepare the instantly claimed invention from the combined teachings of application 10/847,523 and JP 2002-341519. The motivation would have been

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a reasonable expectation of obtaining a faster curing system as taught by JP 2002-341519 for polymerization of ethylenically unsaturated monomers.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 102/35 USC § 103

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 1-7, 14, 17-19, and 21-24 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Shimda et al ^a (JP 2002-341519).

Shimda et al teaches heat-sensitive material compositions for heat-sensitive lithographic printing plate precursors. Said compositions comprising a heat sensitive radical-generating compounds having arylsulfinate anions in combination with either a sulfonium, iodonium, diazonium, or ammonium cations—see general formula I. Examples of arylsulfates can be found starting with paragraph 0015-0025, wherein these appear to anticipate claims 1-7 and 14. The disclosure that said cations for the arylsulfates of general formula I can be ammonium cations appears to anticipate the positively charged nitrogen atom of claim 1. In addition, said composition

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comprises ethylenically unsaturated monomers, oligomers, prepolymer and/or photopolymers, such as those found in paragraph 0035-0045, and other additives, such as coloring agents and other photoinitiators and/or thermal initiators. The disclosed monomers appear to anticipate claims 22-23. Said other photopolymerization photoinitiators that can be added can be those found in paragraph [0053], onium salt initiators can be found such as those taught in JP 09-34110 A (paragraphs 0012-0050) which appears to be incorporated by reference. The teaching that other photoinitiators such as onium salts and especially those disclosed by JP 09-34110 {[0012-0050]} are deemed to read on claims 17-19 and 21. The arylsulfinate salts appear to be anticipated by the reference therefore said arylsulfinate salt should inherently have the oxidation potential as found in claim 24.

Claim Rejections - 35 USC § 103

18. Claims 11-13 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimda et al (JP 2002-341519) in view of JP 09-34410 (herein '110).

Shimda et al is disclosed in the above rejection. While Shimda et al teaches using arylsulfinate anions in combination with ammonium cations, Shimda et al does not expressly teach ammonium cations having the formula found in claims 11-12 and 15-16, nor does Shimda et al teach using phosphonium cations, such as those found in claims 13 in combination with the arylsulfinate anions disclosed. However, '110 teaches onium salts having cations from ammonium, sulfonium, and iodonium and phosphonium cations. Said sulfonium and iodonium cations appear to be the same as those disclosed by Shimda et al usable as cations for the sulfinate salts. Therefore the examiner deems that these are equivalent and therefore it would have been obvious to replace the sulfoniums or iodoniums cations as taught by Shimda et al with the ammonium and phosphonium cations as taught by JP '110. The motivation would have been a reasonable expectation of successfully thermal or photo-curing the composition are taught by Shimda et al in the absence of evidence to the contrary and/or unexpected results.

19. Claims 1-5, 11, 14, 17-19, and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawashima et al (5,486,544) in view of Shimda et al (JP2002-341519).

Kawashima et al teaches polymerizable compositions comprising (a) an ethylenically unsaturated monomer and (b) a sulfinate represented by formula I (see abstract). The metal cation represents an n-valent cation, such as an ammonium ion—see column 3, lines 5-15 and column 4, lines 55-65. Said monomers can be found in columns 6. Kawachima et al teaches adding a

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photoinitiator allows for faster initiation of the composition—see column 6, lines 64 to the end and column 7, lines 35-43. While Kawashima et al does not expressly teach using onium salt photoinitiators in combination with said triarylsulfonates, JP 2002-341519 shows that it is known to combine sulfinate salts with onium salt photoinitiators, such as triarylsulfonium salts—see above rejection in paragraph 14 for detailed explanation. Therefore it would have been obvious for an artisan of ordinary skill in the art to using a triarylsulfonium salt as suggested by Shimda et al with the arylsulfinate as taught by Kawashima et al. The motivation would have been a reasonable expectation of a faster cure speed as suggested by Kawashima et al in the absence of unexpected results and/or arguments to the contrary.

Claim Rejections - 35 USC § 102

20. Claims 25-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Shimda et al (JP 2002-341519).

Shimda et al teaches heat-sensitive material compositions for heat-sensitive lithographic printing plate precursors. Said compositions comprising a heat sensitive radical-generating compounds having arylsulfinate anions in combination with either a sulfonium, iodonium, diazonium, or ammonium cations—see general formula I. Examples of arylsulfonates can be found starting with paragraph 0015-0025. These appear to anticipate at least some of the sulfonates disclosed in claims 25 and 27. In addition, said composition comprises ethylenically unsaturated monomers, oligomers, prepolymer and/or photopolymers, such as those found in paragraph 0035-0045, and other additives, such as coloring agents and other photoinitiators and/or thermal initiators. Said sulfonium salts disclosed by Shimda et al as sufficient cations can be found in paragraphs [0022]-[0025]. These appear to anticipate claims 26-28.

Allowable Subject Matter

21. Claim 20 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

22. The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to teach a composition comprising a triarylsulfonium salts having a cation selected

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from those found in claim 20 in combination with a triarylsulfinate anion with a ammonium or phosphonium cation.

Conclusion

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanza L McClendon whose telephone number is (571) 272-1074. The examiner can normally be reached on Monday through Friday 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Sanza L. McClendon
Examiner
Art Unit 1711
2/14/05

SMc